

PO No	Supplier	Line Item No	Ref No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name	
PO37862	TWM001-VU	1	1	Net 30	M2024T3T1000W.065	2024T3 Tubing 1" OD x 0.65" Thick				36		36		S000955	Stock	10/18/2017	\$ 7.50 / ft	0		\$270.00	TW Metals	
		2			M304TR0.500W.035	304 Round Tube .500 X .035W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269				20		20		S000956	Stock	10/18/2017	\$ 1.50 / pcs	0		\$30.00	TW Metals	
		3			M304TR0.500W.049	304 Round Tube .500 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269						20		S000957	Stock	10/18/2017	\$ 2.80 / pcs	0		\$56.00	TW Metals	
		4			M304TR0.750W.049	304 Round Tube .750 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269				160		160		S000958	Stock	10/18/2017	\$ 2.10 / pcs	0		\$336.00	TW Metals	
		5			M6061T6T0.3125W.058	Aluminum Tube .3125 X .058W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241					60		60		S000959	Stock	10/18/2017	\$ 2.50 / pcs	0		\$150.00	TW Metals
		7			M6061T6T0.500W.058	6061-T6 Round Tube .500 X .058W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241					100		108		S000960	Stock	10/18/2017	\$ 1.75 / pcs	0		\$189.00	TW Metals
																					\$1,031.00	
Total:										396		404										



O'Neal High-Performance Metals Group

Packing
Slip

ORDER NO.: 60640787 FROM: CRAN PAGE 1

CUST NUMBER: 1203820 NET WGT: 88.612 REQ. DATE: 10/09/17 CONFIRMED
 SOLD TO: SHIP TO:
 DART AEROSPACE LTD DART AEROSPACE LTD
 1270 ABERDEEN ST 1270 ABERDEEN ST
 HAWKESBURY ON HAWKESBURY ON
 CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 10/04/17
 TERMS: NET 30 DAYS VIA: COMMON CARRIER
 F.O.B.: SHIPPING POINT FREIGHT: PREPAID
 CUST ORD NO.: PO37862 RELEASE NO.: RECEIVING PHONE:

LINE ITEM DESCRIPTION
 0001 43260 D2024-T3 1 OD X .065 WA

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	36.000 FT	36.000 FT	36.000 FT	8.243	

** 1 TEST REPORTS REQUIRED ** DAS
 ** 1 CERTS REQUIRED ** 9
 ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
 PO:49341478 HT:FO02012480001 PC: 3 UOM
 MLT:UNITED STATES MFG:UNITED STATES CUSTOMER QTY:
 SLB/CL:219348

0002 36449 SMLS CD 304/L A269 1/2 OD X .035 WA

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	20.000 FT	20.000 FT	20.000 FT	3.475	

** 1 TEST REPORTS REQUIRED **
 ** 1 CERTS REQUIRED **
 ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
 PO:49366482 HT:YX1608590 PC: 1 UOM
 MLT:CHINA MFG:CHINA CUSTOMER QTY:
 SLB/CL:3-93

0003 36506 SMLS CD 304/L A269 1/2 OD X .049 WA

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	20.000 FT	20.000 FT	20.000 FT	4.718	

** 1 TEST REPORTS REQUIRED **
 ** 1 CERTS REQUIRED **
 ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
 PO:49336439 HT:YX1506712 PC: 1 UOM
 MLT:CHINA MFG:CHINA CUSTOMER QTY:
 SLB/CL:12-19

1
THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
 PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
 REVIEW.
<http://www.twmetals.com/invoice-terms.html>

SPR-10-18



O'Neal High-Performance Metals Group



Packing
Slip

ORDER NO.: 60640787 FROM: CRAN PAGE 2

CUST NUMBER: 1203820 NET WGT: 88.612 REQ. DATE: 10/09/17 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY ON
CANADA CN K6A 1K7
ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 10/04/17
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO37862 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION
0004 36860 SMLS CD 304/L A269 3/4 OD X .049 WA / WIDTH LENGTH
/ 20' CL

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	160.000 FT	160.000 FT	160.000 FT	58.675	

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
PO:49342471 HT:YX1501783 PC: 8 CUSTOMER QTY: UOM
MLT:CHINA MFG:CHINA SLB/CL:11-63

0005 41723 D6061-T6 5/16 OD X .058 WA / 12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	60.000 FT	60.000 FT	60.000 FT	3.276	

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO:49373738 HT:2289533 PC: 5 CUSTOMER QTY: UOM
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:461694

0006 42276 D6061-T6 1/2 OD X .058 WA / 12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	100.000 FT	108.000 FT	108.000 FT	10.225	

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO:49365548 HT:F002361250001 PC: 9 CUSTOMER QTY: UOM
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:222661

Sept 10-18



O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 60640787 FROM: CRAN PAGE 3

CUST NUMBER: 1203820 NET WGT: 88.612 REQ. DATE: 10/09/17 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY ON
CANADA CN K6A 1K7
ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 10/04/17
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO37862 RELEASE NO.:
RECEIVING PHONE:

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
BROKERS	KUEHNE AND NAGEL LTD		

AREA	TYPE OF PKG	PACK INFO			
		PKGS	GRS WEIGHT	WIDTH	LENGTH
NEW PEN	REDDICRATE	1.000	148.612	4.0000	246.0000
		Box No - TWPK17006722			

1.000 148.612

UNLOAD TYPE: NONE SPECIFIED

BY: Thomas Burgess
RT 000-

DATE SHIPPED _____

1

DATE FILLED

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 60640787 FROM: CRAN PAGE 4

CUST NUMBER: 1203820	NET WGT:	88.612	REQ. DATE: 10/09/17	CONFIRMED
SOLD TO: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON CANADA		SHIP TO: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON ONTARIO CANADA		
CN K6A 1K7		CN K6A 1K7		
SALESPERSON:	DONNA SMALLEY	SHIP BY:	10/04/17	
TERMS:	NET 30 DAYS	27 ENGLEHARD DRIVE		
F.O.B.:	SHIPPING POINT	MONROE TWP	NJ 08831	
CUST ORD NO.:	PO37862			
VIA:	COMMON CARRIER			
FREIGHT:	PREPAID			
RELEASE NO.:				
RECEIVING PHONE:				

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material."

Authorized Test Report Clerk Cyril Mancuso Date: 9/28/17

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:						
M49341478-1		43260		Drawn Seamless Tube/Pipe						
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER:					
219348	001	11/02/2015	F00201248	2024	T3					
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:	DIAM/DAF/THKNS:	WIDTH:	LENGTH:					
379.000 LB	138.000 PCS	220262			12.000 FT					
SHIP TO:		SOLD TO:								
TW METALS INC 27 ENGLEHARD DRIVE EXIT 8A OFF NJ TPK MONROE TWP, NJ 08831 USA		TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA								

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00201248	0001	1	69.9	50.0	22.5	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

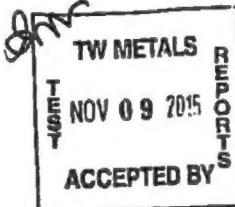
LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.50	0.50	4.90	0.90	1.80	0.10	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.00	0.00	3.80	0.30	1.20	0.00	0.00	0.00	NA	NA	NA	0.00	0.00
D82179	.10	.14	4.60	.72	1.36	.01	.05	.02	.00	.00	.01	.05	.06

Applicable Requirements:

Description: OD: 1.0000"; Wall: 0.0650"; Round \varnothing
 AMS-4088K AMS-WW-T-700/3A ASTM B210-12 DAS
 This Product Complies to FAR BAA, DFARS BAA, FAR TAA
 COMPLIES TO DIN EN 10204 JAN 2005
 No Weld Repair. Mercury Free.

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
 MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
 (DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
 TRADE AGREEMENTS).



Plant Serial: 00020683
 Kaiser Order Number: 219348
 Line Item: 001



A handwritten signature in cursive script that reads "Best in Class".

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Nathaniel Stevens, Quality Manager

A handwritten signature in black ink that appears to read "Nathaniel Stevens".

PUFA™

Producer of Premium Stainless Steel Seamless Tubes

MILL TEST REPORT

Purchaser.: TW METALS-Cranbury			Certificate No.: 2017-6-89						
Contract No.: TWM P.O.No.: M49366482			Date of Issue.: 2017.6.12						
Commodity: Stainless Steel Seamless Tubes			Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW						
Process: Cold Drawn			Delivery Condition: OD Polished to 240 Grit						
Steel Grade	Heat Number	Lot Number	Dimensions	Quantity		Pieces	Feet		
TP304/TP304L	YX1608-590	3-93	1/2"x0.035"x20'	1000		20,000			
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.017	1.28	0.033	0.002	0.35	18.22	8.06	-	-
Product Analysis	0.022	1.27	0.035	0.004	0.38	18.36	8.09	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI) Rm			Yield Strength (PSI) Rp / 0.2%			
Requirements	≥35		≥75,000			≥30,000			
Test Results	61/62		99,000/100,000			45,000/46,000			
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test		
Requirements	-	HRB≤80	-	22%	e=0.09	-	-		
Test Results	-	77/79	-	Passed	Passed	-	OK		
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection				
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance			
Test Results	Passed	-	-	OK	OK	OK			

ISO 9001:2008 Certified by CAS 117 16 QU 0053-06 ROS

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA

By:

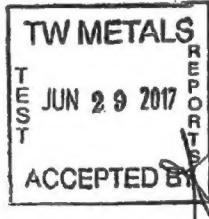


James Shi / Manager
Quality Control Department

We hereby certify that this report is true and correct.

Jiangsu Pufa Stainless Steel Tube Co., Ltd.

No. 99, Xuean Middle Road, Dongchen Town, Rugao City, Jiangsu Province, P.R.China



PUFA™

Producer of Premium Stainless Steel Seamless Tubes

MILL TEST REPORT

Purchaser: TW METALS-Carol Stream			Certificate No.: 16-1-92						
Contract No.: TWM P.O.No.: M49336439			Date of Issue.: 2016.1.5						
Commodity: Stainless Steel Seamless Tubes	Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW								
Process: Cold Drawn	Delivery Condition: OD Polished to 240 Grit								
Steel Grade	Heat Number	Lot Number	Dimensions			Quantity			
TP304/TP304L	YX1506-712	12-19	1/2" x 0.049" x 20'			2300	46,000		
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.013	0.65	0.032	0.002	0.32	18.28	8.05	-	-
Product Analysis	0.017	0.61	0.033	0.002	0.28	18.31	8.55	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI)			Yield Strength (PSI)			
	≥35		Rm			Rp / 0.2%			
Requirements	63/64		≥75,000			≥30,000			
Test Results	97,000/98,000		43,000/44,000						
Test Item	Reduction of Area Z (%)		Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test	
	HRB≤80		-	22%	e=0.09	-	-	-	
Requirements	77/79		-	Passed	Passed	-	-	OK	
Test Results									
Test Item	Eddy Current Test		Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection			
	ASTM E 426		-	-	ASTM A262 E	End Cut	Appearance		
Requirements	Passed		-	-	OK	OK	OK		
Test Results									

ISO 9001:2008 Certified by Intertek 110703068

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA

By:



James Shi

James Shi / Manager
Quality Control Department

We hereby certify that this report is true and correct.

Shanghai Pufa Stainless Steel Pipe Factory
No. 59, Shuangye Road, Wanggang, New Pudong District, Shanghai, China



C

PUFA™

Producer of Premium Stainless Steel Seamless Tubes

MILL TEST REPORT

Purchaser.: TW METALS-Cranbury		Certificate No.: 16-1-13		
Contract No.: TWM P.O.No.: M49342471		Date of Issue.: 2016.1.5		
Commodity: Stainless Steel Seamless Tubes	Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW			
Process: Cold Drawn	Delivery Condition: OD Polished to 240 Grit			

Steel Grade	Heat Number	Lot Number	Dimensions		Quantity	
			Pieces	Feet	Pieces	Feet
TP304/TP304L	YX1501-783	11-63	3/4" x 0.049" x 20'		250	5,000

Chemical Composition by Weight (%)

Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.012	0.68	0.031	0.001	0.37	18.35	8.05	-	-
Product Analysis	0.019	0.70	0.033	0.002	0.39	18.37	8.31	-	-

Mechanical Properties

Test Item	Elongation (% in 2")	Tensile Strength (PSI)			Yield Strength (PSI)		
		Rm	Rp / 0.2%				
Requirements	≥35	≥75,000			≥30,000		
Test Results	65/66	89,000/90,000			34,000/35,000		
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test
Requirements	-	HRB≤80	-	22%	e=0.09	-	-
Test Results	-	75/77	-	Passed	Passed	-	OK
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection		
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance	
Test Results	Passed	-	-	OK	OK	OK	

ISO 9001:2008 Certified by Intertek 110703068

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA

By:



James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Shanghai Pufa Stainless Steel Pipe Factory
No. 59, Shuangye Road, Wanggang, New Pudong District, Shanghai, China





PRECISION TUBE CO.
287 WISSAHICKON AVE.
NORTH WALES PA 19454

Control No: 4909

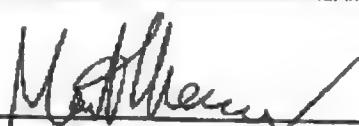
A COMPANY OF MUELLER INDUSTRIES

CERTIFIED TEST REPORT

CUSTOMER PURCHASE ORDER NO.		CUST. ORD. NO.	PRECISION TUBE P/N							
M 49373738 LINE 001		461694	24A031250580005							
SOLD: TW METALS TO 175 TUBEWAY FOREST PARK, GA 30298 UNITED STATES		SHIP: TW METALS TO 175 TUBEWAY FOREST PARK, GA 30298 UNITED STATES								
QUANTITY ORD.	DESCRIPTION		QTY. SHIPPED	DATE SHIPPED						
3500 FT	METAL - 6061 ALUM TEMPER T6 SPEC AMS 4082P (ASTM-B-210-12) AMS-WW-T-700/6C LENGTH - 12 FT LGTH TOL +.1250 IN -.0000 IN SHAPE - ROUND FINISH - STRAIGHT EXACT LENGTHS OD .3125 +.0030 -.0030 ID WALL .0580 +.0040 -.0040		3648 FT	08/08/17						
MECHANICAL PROPERTIES										
SAMPLE #	TENSILE STRENGTH (P.S.I.)	YIELD STRENGTH (P.S.I.)	ELONGATION IN 2 INCHES (%)	ROCKWELL HARDNESS						
1	46,136	40,185	18							
DESTRUCTIVE TESTS										
Comments: FAR BAA COMPLIES, DFARS BAA COMPLIES, FAR TAA COMPLIES										
NON-DESTRUCTIVE TESTS										
EDDY CURRENT: PASS										
CHEMICAL COMPOSITION										
ALLOY: 6061	HEAT:	TRACEABILITY #: 2289533 RAW MTL VENDOR: PTCL11774 - KAISER ALUMINUM								
Min	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	3.00
Max	0.40	0.70	0.40	0.15	0.80	0.04				Rem.
OTHER ELEMENTS: 0.05 MAX EACH / 0.15 MAX TOTAL										

We hereby certify that the material has been manufactured and tested in accordance with the requirements of the applicable specifications and descriptions set forth on Precision Tube's sales acknowledgement. During the manufacturing, testing and inspection, the product did not come into direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundary containment. Test results indicate that the material is compliant with the current revision of the RoHS Directive (2011/65/EU).

Melted and Manufactured in USA
QMS Registered to ISO 9001: 2008

By: 
Matthew Flynn-Hefford
Quality Engineer

08/08/17
Page: 1 of 1

KAISER

ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:		
PTC11774		SPIRIT-371850		5.400 LB/PC .500 LB/0 LB 1.312 OD X .085 WALL ESRT		
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER:	
321818	001	05/26/2017	50751-362	6061	O	
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:	DIAM/DAF/THKNS:	WIDTH:	LENGTH:	
8874.000 LB	1547.000 PCS	005368			13.984 FT	
SHIP TO:	SOLD TO:					
PRECISION TUBE CO 287 WISSAHICKON AVENUE N. WALES, PA 19454 USA	MUELLER INDUSTRIES, INC PRECISION TUBE 8285 TOURNAMENT DRIVE STE. 160 MEMPHIS, TN 38125 USA					



Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELong in 2	HARDNESS	CONDUC.	BEND
50751-362	0001	0001	18.3	5.6	26.7	N/A	N/A	N/A
50751-362	0001	0002	17.9	5.3	28.1	N/A	N/A	N/A
50751-362	0001	0003	18.6	6.3	25.0	N/A	N/A	N/A
50751-362	0001	0004	18.5	5.8	24.9	N/A	N/A	N/A
50751-362	0001	0005	19.0	6.5	24.6	N/A	N/A	N/A
50751-362	0001	0006	18.7	6.2	25.8	N/A	N/A	N/A
50751-362	0001	0007	18.2	5.5	27.5	N/A	N/A	N/A
50751-362	0001	0008	18.0	5.5	25.9	N/A	N/A	N/A
50751-362	0001	0009	18.3	5.8	24.9	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	.0
A20304	.58	.31	.22	.05	.99	.09	.06	.03	.00	.00	.00	.01	.02
A20302	.58	.29	.23	.05	.99	.09	.05	.02	.00	.00	.00	.01	.02

Applicable Requirements:

ASTM-B241-16 NON-STENCILED ASTM-B221-14 ASTM-B345-11 AMS-QQ-A-200/8A TYPE I
UNS#A96061 Also conforms to EN 10204 3.1

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

TEST REPORTS
ACCEPTED BY
49373738
AUG 14 2017

TW METALS

Paula Lamm

KAISER ALUMINUM FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER

John

TEST REPORTS
ACCEPTED BY

AUG 14 2017

TW METALS

Paula Farmer

KAISER

ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:		
M49365548-1		42276		Drawn Seamless Tube/Pipe		
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER:	
222661	001	03/20/2017	F00236125	6061	T6	
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:	DIAM/DAF/THKNS:	WIDTH:	LENGTH:	
443.000 LB	388.000 PCS	224652			12.000 FT	
SHIP TO:			SOLD TO:			
TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA			

Actual Physical Properties

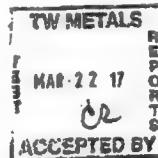
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CONT LACS	BEND
F00236125	0001	1	46.7	41.1	17.0	N/A	N/A	N/A
F00236125	0002	1	46.2	40.9	18.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D76510	.62	.23	.23	.05	.99	.07	.07	.02	.00	.00	.00	.01	.02

Applicable Requirements:

Description: OD: 0.5000"; Wall: 0.0580"; Round @
AMS4082P AMS-WW-T-700/6C ~~ASTM B210-1~~ WW-T-700/6F
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS4082P, WAS NOT OILED.
This Product Complies to FAR BAA, DFARS BAA, FAR TAA
COMPLIES TO DIN EN 10204 JAN 2005
No Weld Repair. Mercury Free.



Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).

Plant Serial: 00024461
Kaiser Order Number: 222661
Line Item: 001

KAISER ALUMINUM FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager



Plant Serial: 00024461
Kaiser Order Number: 222661
Line Item: 001



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37862**

Purchase Order Date 9/25/2017
PO Print Date 9/25/2017

Page Number 1 of 4

Order From : VU-TWM001

TW METALS
PO BOX 933014
ALTANTA, GA 31193-3014
US

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

EMail: **SEP 25 2017**

Contact Name
Vendor Phone 585 768 5600

Ship To Contact
Ship To Phone
Ship Via: YRC COLLECT
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency USD
FOB FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	M2024T3T1.000W.065	2024T3 Tubing 1" OD 45 0.65" Thick 9 9-80	10/6/2017 10/6/2017	Yes	36.00 f	\$7.50	\$270.00
3	M304TR0.500W.035	304 RD Tube .500 x .035W	10/6/2017 10/6/2017	Yes	20.00 f	\$1.50	\$30.00

AS PER MATERIAL 2024-T3 ROUND TUBING, MAT'L SPEC'S AMS-QQ-A-250/4

Line Total: \$270.00

88 P-10-18

Line Total: \$30.00

MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING
AS PER ASTM A213 OR ASME SA213 OR ASTM A269

Note:



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37862**

Purchase Order Date 9/25/2017

PO Print Date 9/25/2017

Page Number 2 of 4

Order From : VU-TWM001

TW METALS
PO BOX 933014
ALTANTA, GA 31193-3014
US

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 585 768 5600

Ship To Contact
Ship To Phone
Ship Via: YRC COLLECT
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency USD
FOB FCA - (Free Carrier)

4 M304TR0.500W.049 ✓ 304 RD Tube .500 x .049W ✓ 10/6/2017
Yes 10/6/2017

20.00 ✓ \$2.80 ✓ \$56.00

MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING
AS PER ASTM A213 OR AMSE SA213 OR ASTM A269

5 M304TR0.750W.049 ✓ 304 RD Tube .750 x .049W ✓ 10/6/2017
Yes 10/6/2017

160.00 ✓ \$2.10 ✓ \$336.00

MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING
AS PER ASTM A213 OR AMSE SA213 OR ASTM A269

6 M6061T6T0.3125W.058 ✓ ALUM TUBE .3125 x .058w ✓ DAS
9 ✓ 10/6/2017
Yes 10/6/2017

60.00 ✓ \$2.50 ✓ \$150.00

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR
ASTM B241

SP A10-18

Note:



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37862**

Purchase Order Date 9/25/2017
PO Print Date 9/25/2017

Page Number 3 of 4

Order From : VU-TWM001

TW METALS
PO BOX 933014
ALTANTA, GA 31193-3014
US

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 585 768 5600

Ship To Contact
Ship To Phone
Ship Via: YRC COLLECT
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency USD
FOB FCA - (Free Carrier)

			Line Total:	
7	M6061T6T0.375W.058	6061-T6 RD Tube .375 x.058W	100.00	\$150.00
			310	
			f	
			10/6/2017	

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR
ASTM B241

			Line Total:	
8	M6061T6T0.500W.058	6061-T6 RD Tube .500 x.058W	100.00	\$215.00
			310	
			f	
			10/6/2017	

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR
ASTM B241

Line Total: \$175.00

Note:



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37862**

Purchase Order Date 9/25/2017

PO Print Date 9/25/2017

Page Number 4 of 4

Order From :

TW METALS
PO BOX 933014
ALTANTA, GA 31193-3014
US

VU-TWM001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 585 768 5600

Ship To Contact

Ship To Phone

Ship Via: YRC COLLECT

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

10127-2607

Customer Tax #

Net 30

Terms

USD

Currency

FCA – (Free Carrier)

FOB

9 71401-45	PROCUREMENT QUALITY CLAUSES	10/6/2017	1.00	\$0.00	\$0.00
------------	--------------------------------	-----------	------	--------	--------

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

No
10/6/2017

Line Total: \$0.00

PO Total: \$1,232.00

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1

Change Date: 9/25/2017

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: H2024T3T1.000W.065
 DATE: 17.11.15

PO / BATCH NO.: 37862/5000955

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 36
 QUANTITY INSPECTED: 36
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .065
 THICKNESS RECEIVED: .065
 SHEET SIZE ORDERED: 11A
 SHEET SIZE RECEIVED: 11A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<u>ASTM B310-12</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<u>F00201248</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

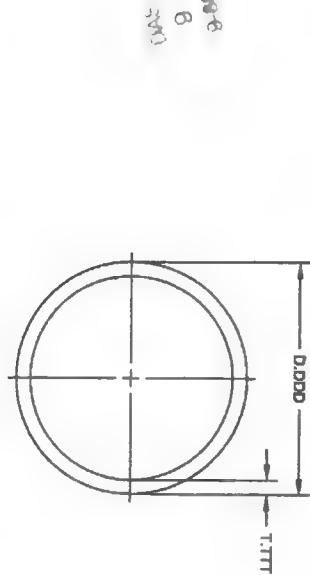
CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>9</u>	SIGNED OFF BY: _____
DATE: <u>17.11.15</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

1.000 W.05



PURCHASE MATERIAL: 6061-T6/T62/T651/T6511 SEAMLESS TUBING

SPECIFICATION:

WW-T-7006
OR QQA-2008 OR QQA-A-2258
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241

PART NUMBER:

M6061T6T0.000W(T.TT)

00 | WALL

WHERE "ODDD" = OD IN INCHES

T.TTT = WALL THICKNESS

E.G. 36" OD X 0.058 WALL = M6061T6T0.375W0.058

MATERIAL TOLERANCE:

PER ANSI H35.2



C	COMPLETE REFORMAT, ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241. ADDED MATERIAL TOLERANCE.	AJS	13.06.12
B	ADD QQA-A-2008 & QQA-A-2258	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	Y	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	M6061T6T	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	6061-T6 TUBING	NTS
DATE	13.06.12	COMPILED © 2001 BY DART AEROSPACE LTD	NOT FOR FABRICATION

RELEASED
2013-07-02
[Signature]

8

7

6

5

4

3

2

1

8

7

6

5

4

3

2

1

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TRO.500W.049
 DATE: 17/11/09

PO / BATCH NO.: PO 37862
5000957

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 20'
 QUANTITY INSPECTED: 20'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .500 W.049
 THICKNESS RECEIVED: .497 W.047
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>ASTM A213</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>.497 W.047</u>
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>MATE# YX 1506712</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>5000957</u>
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>M304TRO.500W.049</u>
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>48</u> <u>0.89</u>	SIGNED OFF BY: _____
DATE: <u>17/11/09</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TRO.750W.049
 DATE: 17/11/09

PO / BATCH NO.: PO 37862
5000958

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 160
 QUANTITY INSPECTED: 160'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .750 W.049
 THICKNESS RECEIVED: .744 W.047
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	
CORRECT FINISH	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	
CORROSION	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	<u>ASTM A213</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	<u>.744 W.047</u>
PHOTO REQUIRED	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	<u>Heat # YX1501783</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	<u>M 304TRO.750W.049</u>
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	<u>5000958</u>
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	<u>248</u> <u>48</u>	ENGINEERING SIGNOFF (if required)
INSPECTED BY:	<u>9-89</u>	SIGNED OFF BY:
DATE:	<u>17/11/09</u>	DATE:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 1606161032W.053
 DATE: 11.11.15

PO / BATCH NO.: 37462/5000159

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 60'
 QUANTITY INSPECTED: 60'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .058"
 THICKNESS RECEIVED: .058"
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <u>N</u>	
CORRECT FINISH	Y <u>N</u>	
CORROSION	Y <u>N</u>	
CORRECT GRAIN DIRECTION	Y <u>N</u>	
CORRECT MATERIAL PER M-DRAWING	Y <u>N</u>	ASTM-B210
CORRECT THICKNESS	Y <u>N</u>	
PHOTO REQUIRED	Y <u>N</u>	
CORRECT REF # TO LINK CERT	Y <u>N</u>	2287533
CORRECT MATERIAL IDENTIFICATION	Y <u>N</u>	
CORRECT M# ON THE MATERIAL	Y <u>N</u>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>448</u> <u>9</u>	SIGNED OFF BY: _____
DATE: <u>11.11.15</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

312 w. 058

PURCHASE MATERIAL: 6081-T6/T62/16510/T6511 SEAMLESS TUBING

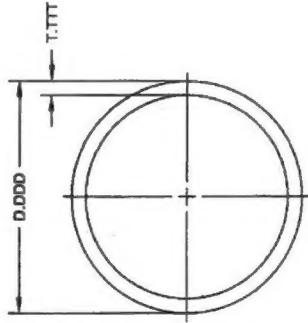
SPECIFICATION: **WW-T-7006**
OR QQA-2018 OR QQA-22558
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241

PART NUMBER:

WHERE "D.DDD" = OD IN INCHES
"T.TTT" = WALL THICKNESS

EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058

MATERIAL TOLERANCE:



RELEASED
2013-07-02
AM

COMPLETE REFORMAT ADDED TB510 & TB511.			
C	ADDED AAMS 4003, ASTM B210 & ASTM B241	AJS	13.06.12
	ADDED MATERIAL TOLERANCE	CP	04.01.23
B	ADD QQA-A-2008 & QQA-A-225/8	DS	01.08.21
A	NEW ISSUE	BY	DATE
REV.	DESCRIPTION	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DESIGN	AJS	REV. C	SCALE
DRAWN	AJS	SHEET 1 OF 1	NTS
CHECKED	<i>Y</i>	DRAWING NO.	
MFG. APPR.	<i>b6061-176T</i>	M6061-176T	
APPROVED	<i>[Signature]</i>	TITLE	
DE APPR.	<i>[Signature]</i>	6061-176 TUBING	
DATE	13.06.12	COPYRIGHT © 2001 BY DART AEROSPACE LTD PRODUCTION OF THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD. NO COPIES MAY BE MADE OR COPIED ON REQUEST. THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD. NO COPIES MAY BE MADE OR COPIED ON REQUEST.	

		DART AEROSPACE LTD	
		HAWKESBURY, ONTARIO, CANADA	
DESIGN	AJS	DRAWN	AJS
CHEKED	<i>Y</i>	DRAWING NO.	
MFG. APPR.	<i>Y</i>	REV. C	SHEET 1 OF 1
APPROVED	<i>Y</i>	TITLE	SCALE
DE APPR.	<i>Y</i>	6061-T6 TUBING	NTS
DATE	13.06.12	<small>Copyright © 2001 by Dart Aerospace Ltd. No part of this drawing may be reproduced without the written consent of Dart Aerospace Ltd. Not to be used for any other purpose than the original purpose for which it was issued.</small>	
1	2	3	4
5	6	7	8

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T670500W.058
 DATE: 7.11.15

PO / BATCH NO.: 37862/5000960

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 103'
 QUANTITY INSPECTED: 103'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .058"
 THICKNESS RECEIVED: .058"
 SHEET SIZE ORDERED: 11A
 SHEET SIZE RECEIVED: 11A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT GRAIN DIRECTION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	A351P2D-12
CORRECT THICKNESS	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT REF # TO LINK CERT	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	F002361250001
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT M# ON THE MATERIAL	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>LAS</u> <u>9</u> <u>0.00</u>	SIGNED OFF BY: _____
DATE: <u>7.11.15</u>	DATE: _____

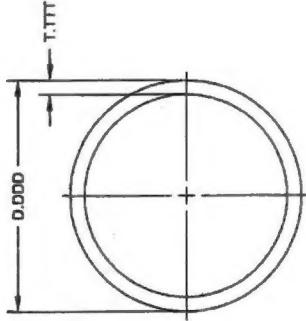
Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

500W053

△
PURCHASE MATERIAL: 8081-T6/T62/T6510/T6511 SEAMLESS TUBING
SPECIFICATION: WWT-7008
OR QQ-A-2008 OR QQ-A-2258
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241
△
PART NUMBER:
M8081T6TP.DDDWWT:TTT
OD [WALL]
WHERE "D.DDD" = OD IN INCHES
"WWT" = WALL THICKNESS
EG. 3/8" OD X 0.058 WALL = M8081T6T0.375W0.058

MATERIAL TOLERANCE:

△
PER ANSI H35.2
△



DAS
9
9-RC

RELEASED
2013-07-02
JW

DART AEROSPACE LTD			
HAWKSBURY, ONTARIO, CANADA			
DESIGN	A.I.S	A.I.S	DATE
DRAWN	A.I.S	DRAWING NO.	REV. C
CHEKED	△	M6081T6T	SHEET 1 OF 1
MFG. APPR.	△	TITLE	SCALE
APPROVED	△	6081-T6 TUBING	NTS
DE APPR.	△	DATE	COPYRIGHT 2001 BY DART AEROSPACE LTD
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1

2

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D

C

B

A

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TRO.500W.035
 DATE: 7/1/09

PO / BATCH NO.: PO 37862
5000956

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 20'
 QUANTITY INSPECTED: 20'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .500 W.035
 THICKNESS RECEIVED: .499 W.037
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORROSION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT GRAIN DIRECTION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="radio"/> N <input type="radio"/>	ASTM A213
CORRECT THICKNESS	Y <input checked="" type="radio"/> N <input type="radio"/>	.499 W.037
PHOTO REQUIRED	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT REF # TO LINK CERT	Y <input checked="" type="radio"/> N <input type="radio"/>	Heat# TX1608590
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="radio"/> N <input type="radio"/>	M304TRO.500W.035
CORRECT M# ON THE MATERIAL	Y <input checked="" type="radio"/> N <input type="radio"/>	5000956
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N <input type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N <input type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	<u>DAS</u> <u>46</u>	ENGINEERING SIGNOFF (if required)
INSPECTED BY:	<u>9-89</u>	SIGNED OFF BY:
DATE:	<u>7/1/09</u>	DATE:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in